

Director's Digest



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VALUABLE FEED INGREDIENT

Meat and Bone Meal/Meat Meal (MBM) are more valuable feed ingredients than normally assumed. These products are routinely compared with soybean meal (SBM) and fish meal (FM) basically as protein sources. What happens if we compare MBM, SBM and FM not only as protein sources but also relative to the minerals supplied?

Meat and bone meal is an excellent source of calcium and phosphorus. Soybean meal has essentially no calcium and phosphorus and fish meal will normally supply only about fifty (50) percent of the calcium and phosphorus as MBM. Average nutrient profiles for these ingredients are shown in Table 1.

Table 1. Nutrient Profile of Various Protein Sources

	Meal and Bone Meal (MBM)	Soybean Meal (SBM)	Fish Meal (FM)
Protein, %	50.0	48.0	65.0
M.E.Cal/Kg	1920	2490	2880
Lysine, %	2.75	3.20	4.90
Methionine, %	0.70	0.72	1.90
Cystine, %	0.35	0.74	0.60
M & C, %	1.05	1.46	2.50
Tryptophan, %	0.50	0.64	0.75
Calcium, %	8.00	0.20	4.00
Av.Phos., %	4.00	0.20	2.80

It is evident from the values presented in Table 1 that SBM and FM have higher energy and amino acid values than MBM. If we simply stopped the comparison at that point (as many purchasing agents and computer operators do), we don't have the full value for MBM. Meat and bone meal must be evaluated for the calcium and phosphorus that is

supplied. Average nutrient profiles for MBM, SBM and FM equated to the same calcium and phosphorus values are shown in Table 2.

Table 2. Nutrient Profile of Protein Sources Equated for Equal Mineral Levels

	Meat and Bone Meal (MBM)	Soybean Meal (SBM)	Fish Meal (FM)
Protein, %	50.0	34.0	54.2
M.E., Cal/Kg	1920	1743	2398
Lysine, %	2.75	2.24	4.08
Methionine, %	0.70	0.50	1.58
Cystine, %	0.35	0.52	0.50
M & C, %	1.05	1.02	2.08
Tryptophan, %	0.50	0.45	0.62
Calcium, %	8.00	8.00	8.00
Av. Phosphorus, %	4.00	4.00	4.00

Soybean meal requires the blending of thirty (30) percent calcium and phosphorus sources such as ground limestone, dicalcium phosphate, rock phosphate, etc. to supply the minerals supplied by MBM. Fish meal requires sixteen and three-fourths (16.75) percent of these same mineral sources to supply the same mineral content as MBM. Thus, the protein, energy and amino acid values for SBM and FM are dramatically lowered when these products are blended to supply the same mineral levels as MBM. Formulating to certain calcium and phosphorus levels in all feed formulations is what the feed manufacturer must do. Why should the feed manufacturer be utilizing three feed formulation ingredients to supply protein, calcium and phosphorus to the formulation when meat and bone will provide all three?

Since MBM does not require the addition of mineral sources in large amounts to the formulation as compared with SBM and FM, it provides the feed manufacturer more space within the formulation for other nutrients. Formulation space is always a problem for the feed company nutritionist and needs to be stressed with purchasing personnel. Utilization of MBM in formulations would also reduce the amount of calcium and phosphorus supplying products that would have to be handled by the feed manufacturer. Thus, less money is tied up in feed ingredient inventory.

I have not discussed the value of MBM mineral content from a dollar point of view. This is done because of the always changing prices of ingredients utilized in feed formulations. You should discuss this concept with your customers using current prices on the day of your meeting. During the comparison of protein sources, you must compare unit costs for protein, amino acids, calcium and phosphorus. Also, you should stress number of products handled, space in the formulation and monies tied up in ingredient inventories.

In summary, we must market meat and bone meal on its true nutrient value. You should stress the value of not only protein but the minerals supplied by MBM and the cost per nutrient unit with SBM and FM.

MARKET YOUR QUALITY PRODUCT IN A QUALITY MANNER.